

Bethlehem Climate Action Plan: Public Meeting on Community Objectives

June 17, 2020



Agenda

- Why is the City developing a Climate Action Plan?
- What is a Climate Action Plan?
- How to stay engaged
- Community input and discussion

En español

Bethlehem wants to hear from all residents. If Spanish is your primary language, please provide input on the climate action plan in this survey:

(<https://tinyurl.com/bethlehemCAPpublicspanish>)

In addition, a Spanish translation of this presentation will be made available afterwards. We welcome input on this through the Submit an Idea form on this website:

www.BethlehemCAP.org

La ciudad de Bethlehem quiere saber de todos los residentes. Si el español es su idioma principal, por favor, proporcione información sobre el plan de acción climática en esta encuesta: (<https://tinyurl.com/bethlehemCAPpublicspanish>).

Adicionalmente, una traducción al español de esta presentación va a disponible después de la reunión. Damos la bienvenida a la opinión a través del formulario "Enviar una idea" (Submit an Idea) en este sitio web: www.BethlehemCAP.org.

Welcome

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Bethlehem City Operations Climate Progress

Reducing operational costs and emissions

37% emissions reduction 2005-2017

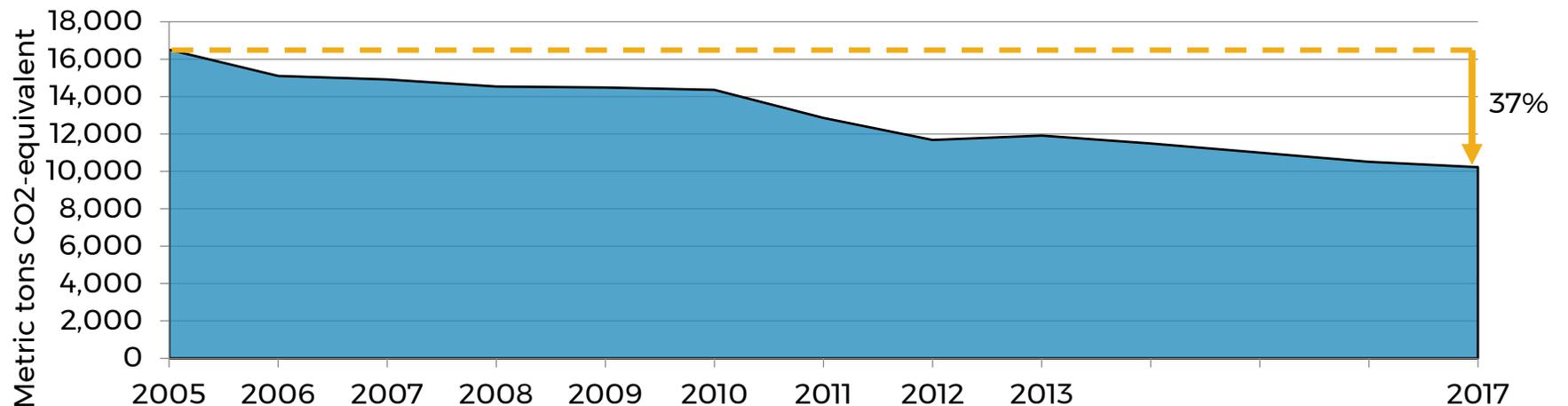
- Energy efficiency and conservation
- Water and wastewater systems upgrades
- Renewable electricity

Community-wide impacts

- Increased recycling
- South Bethlehem Greenway
- Land use and community design

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City Operations Greenhouse Gas Emissions



CAP Development Partners



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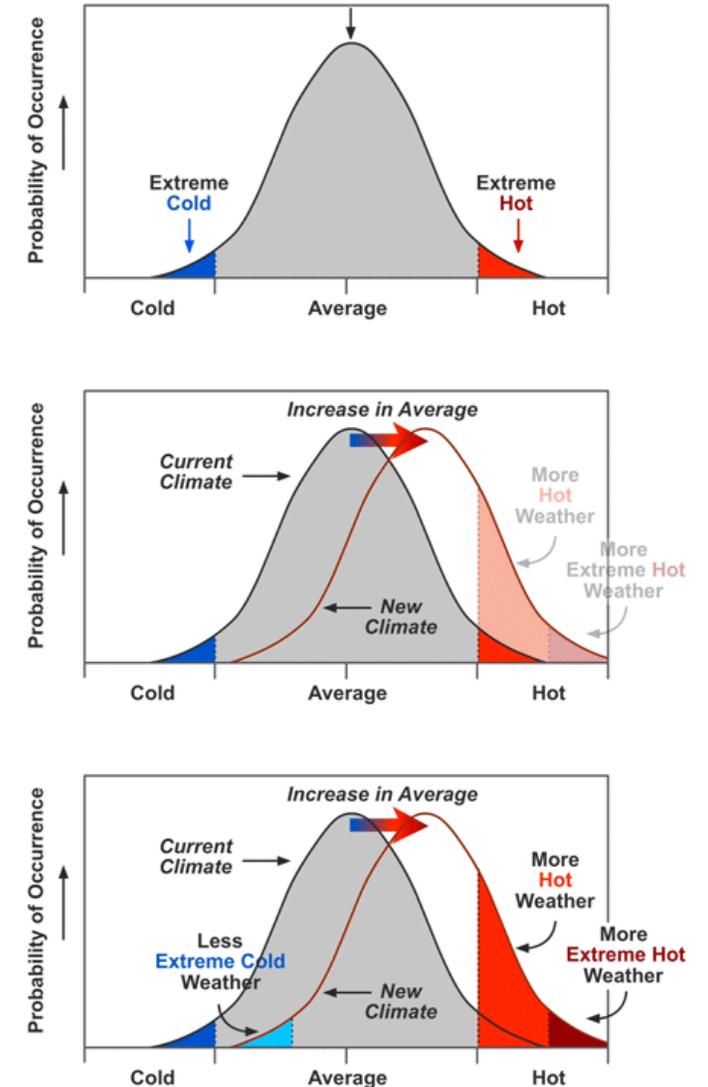
General public

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Climate vs. Weather

Climate – average conditions of a place over a long period of time

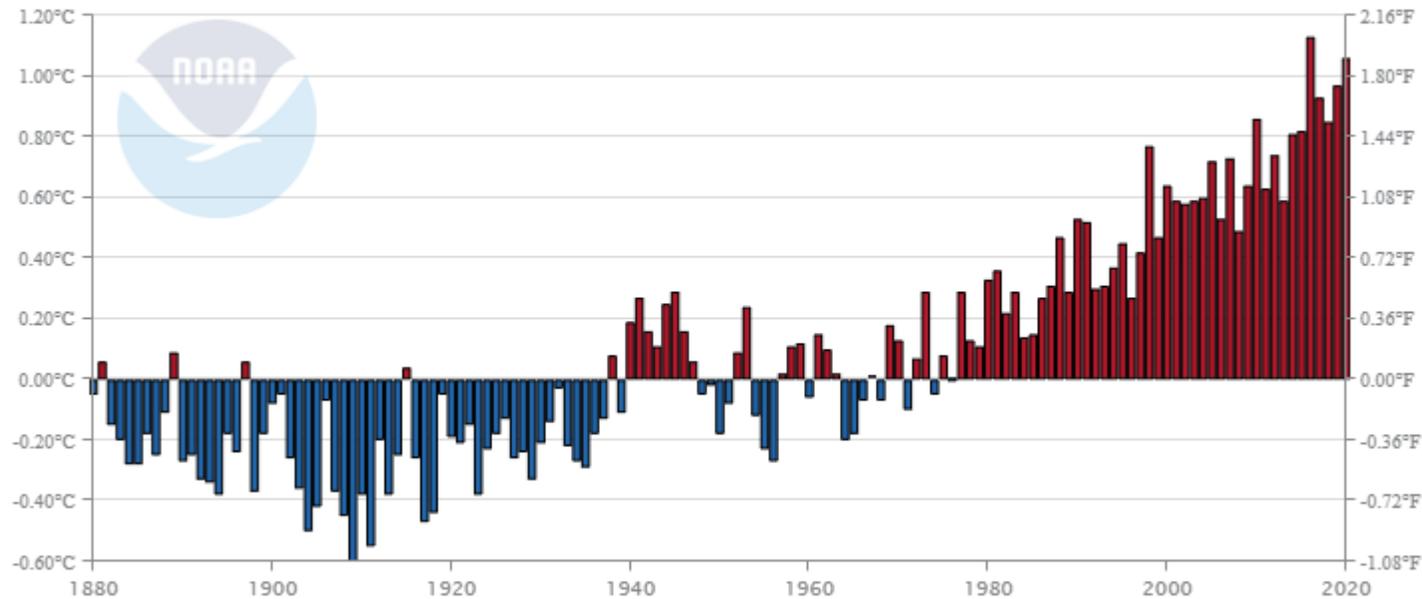
Weather – atmospheric conditions at a particular place and time



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Climate Change

Global Land and Ocean
April Temperature Anomalies



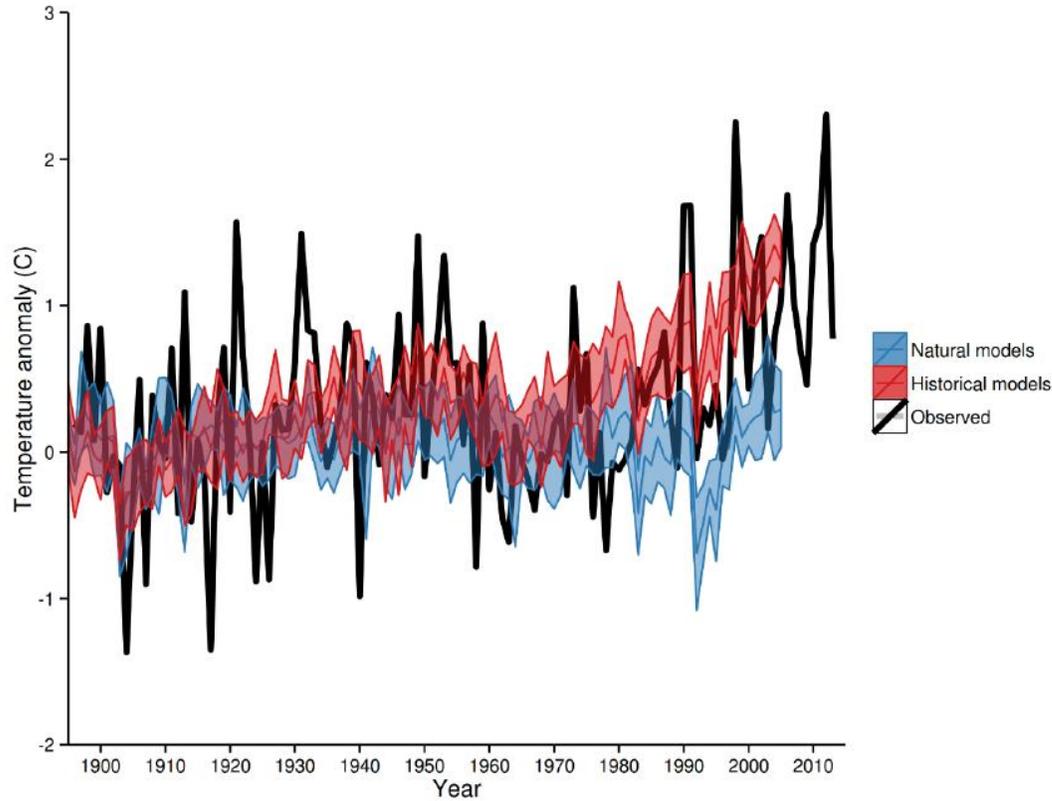
[Time Machine](#)

[Climate Explorer - Bethlehem](#)

April 2020 was 1.06°C (1.91°F) above the 20th century average of 13.7°C (56.7°F) and the second highest April temperature in the 141-year record.

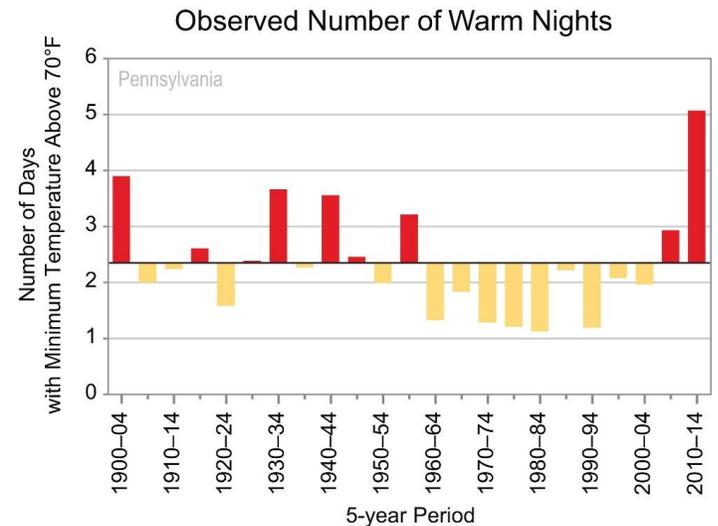
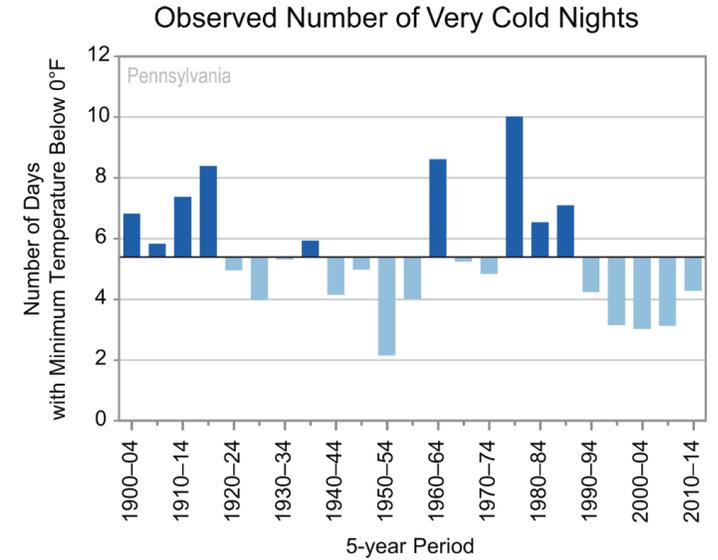
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Observed changes in PA



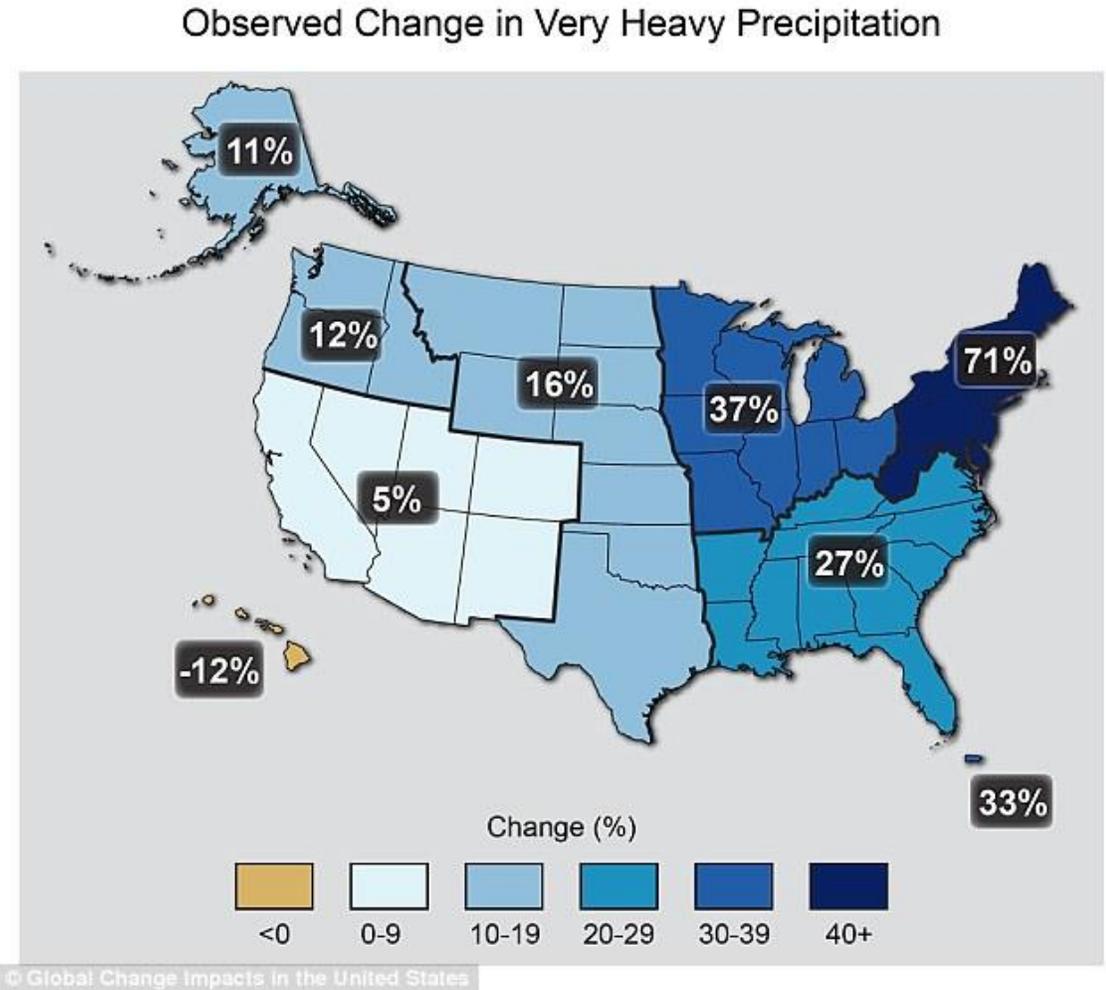
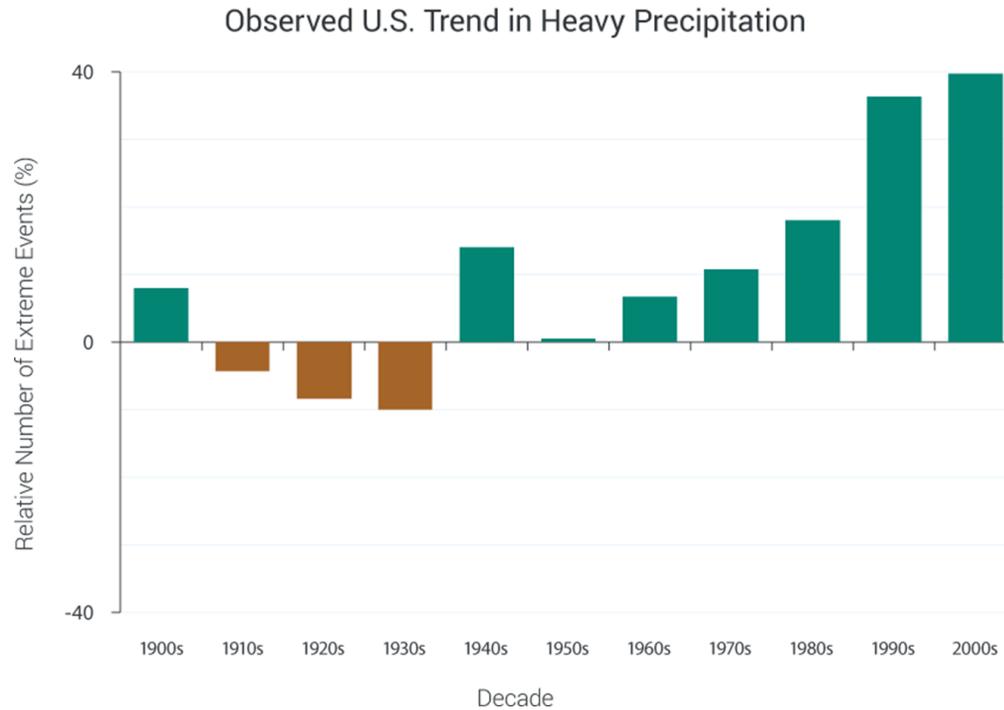
Annual mean temperature anomaly (with respect to 1900-1929)

From PA Climate Impact Assessment Update 2015



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Increases in heavy precipitation



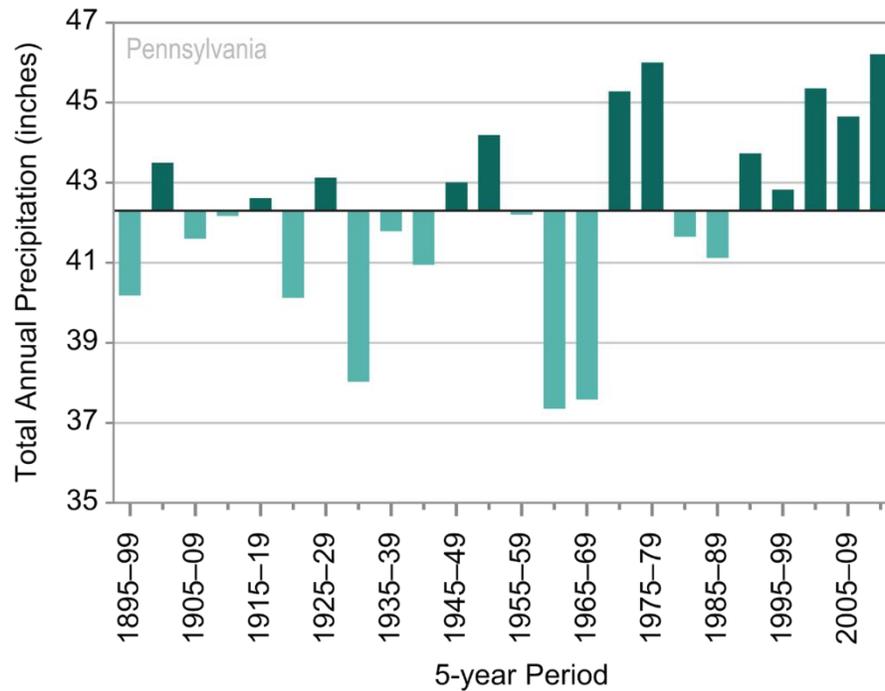
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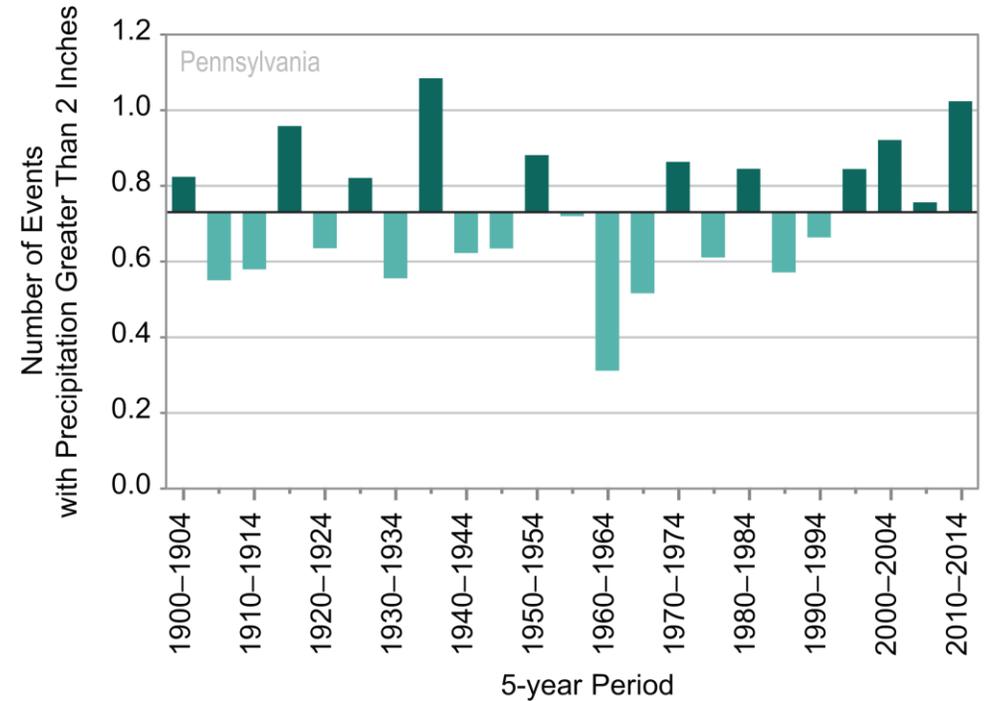
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More moisture in atmosphere = more precipitation

Observed Annual Precipitation



Observed Number of Extreme Precipitation Events

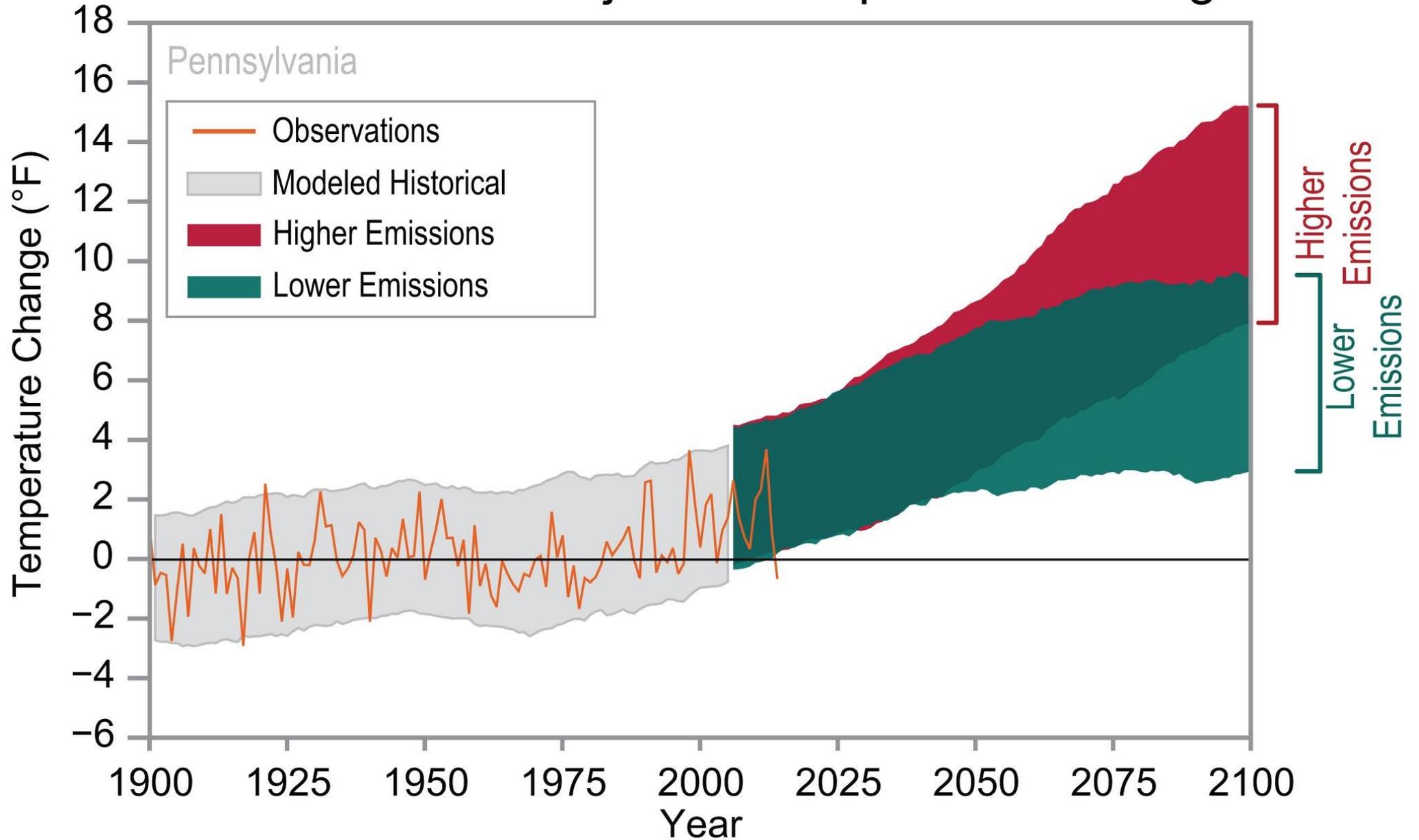


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Observed and Projected Temperature Change



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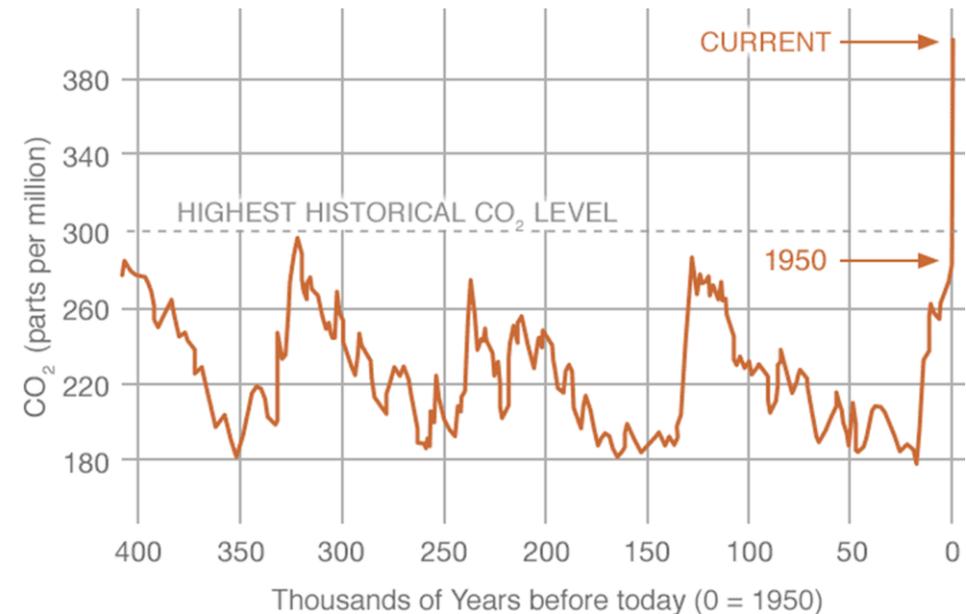
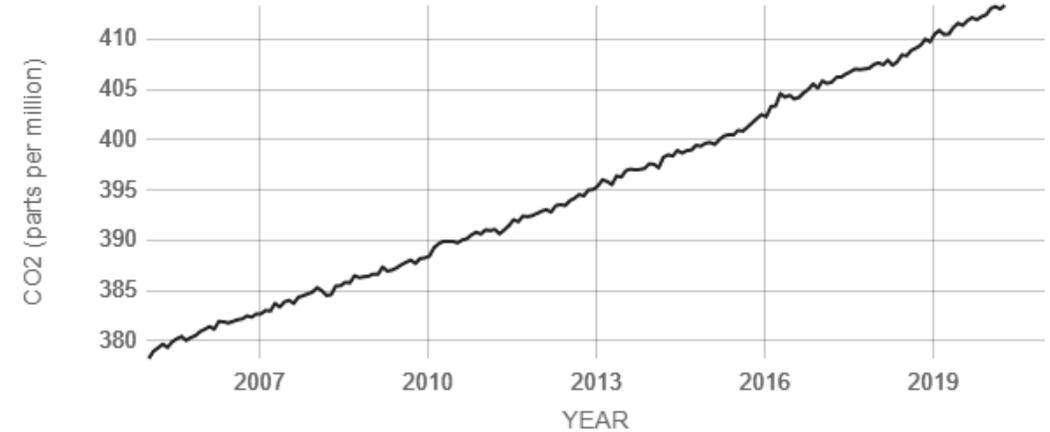
Climate Change in PA

- Temperature increased 1.8°F since last century
- By 2050 PA will be 5.4°F (3°C) warmer than 2000.
- In 2050 Philadelphia will have the climate of Richmond, VA and Pittsburgh will have Washington, DC.
- More days with temperatures over 90°F
- The average precipitation to increase by 15-20% (winter), 10-15% (spring), 0-5% (summer), and 0-5% (fall) by the late 21st century Increased risk of flooding - increased runoff leads to reduced water quality.
- Snow cover decline by 20-60% (no winter sports by mid-century).
- Increased probability that storms will be stronger with heavier rainfall.
- Non-tropical extreme rainfall events will increase.

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Some Causes: Carbon Dioxide

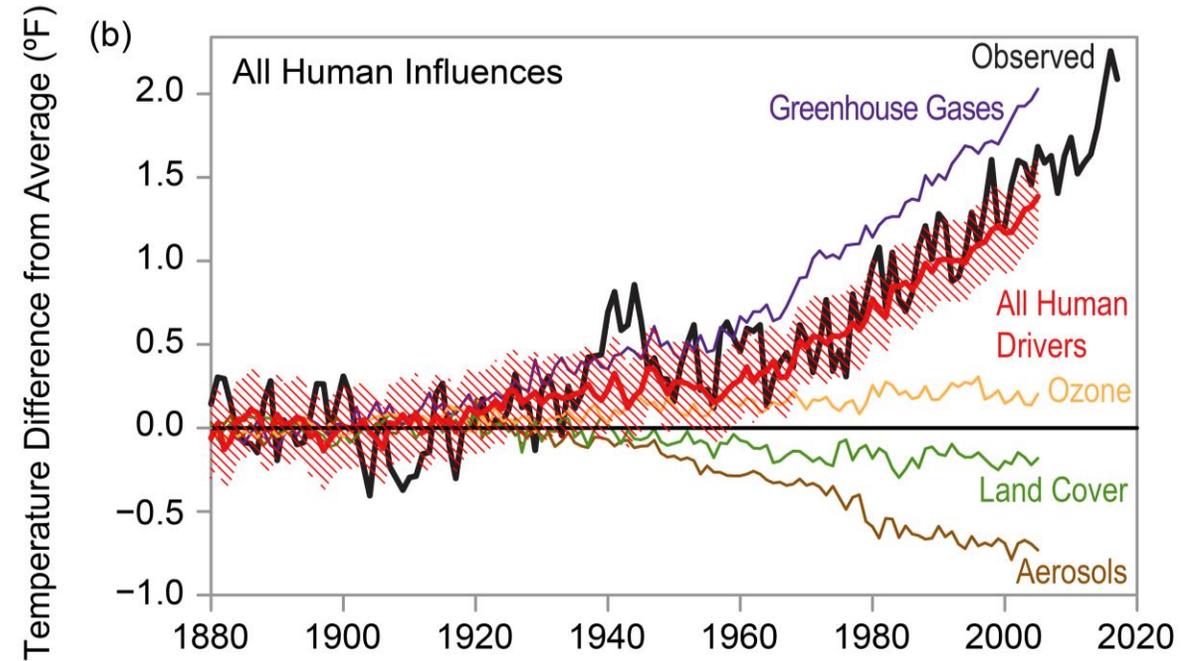
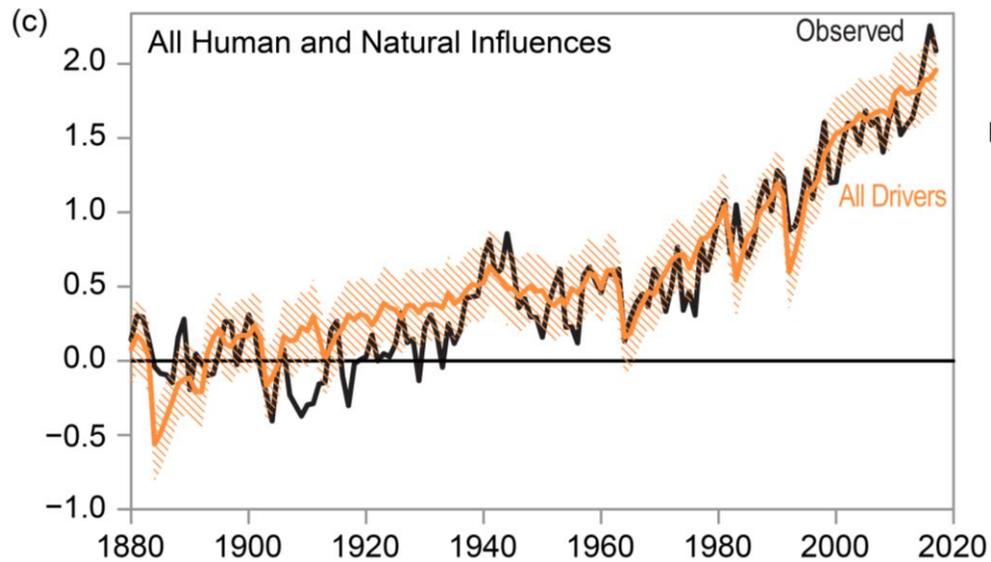
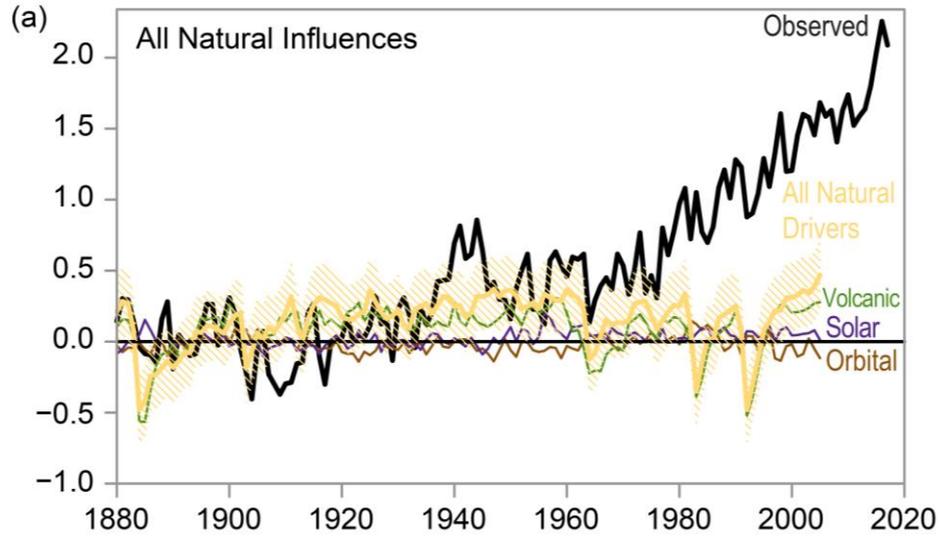
Fossil fuel emissions lead to increased carbon dioxide in the atmosphere which contributes to the rise in global temperatures



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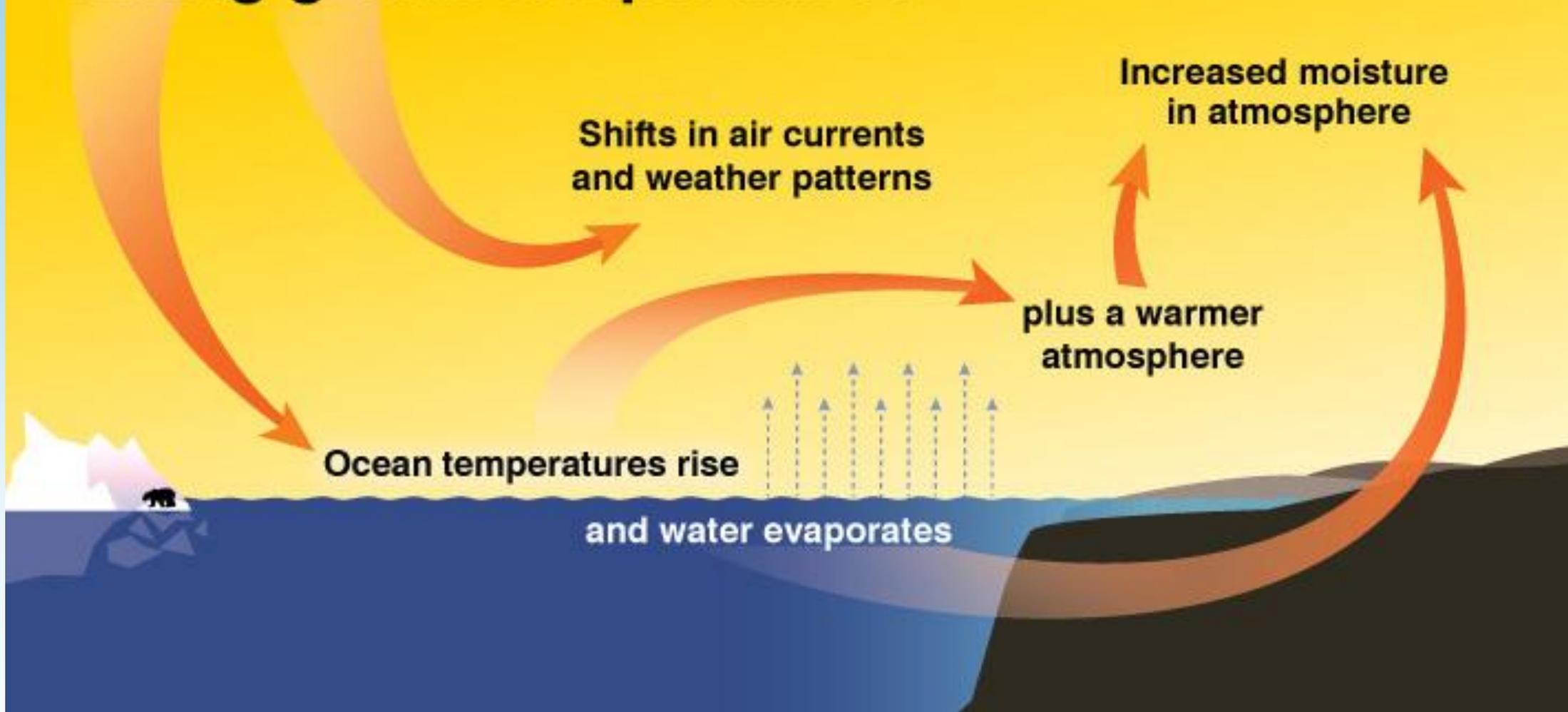
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National Climate Assessment -
<https://nca2018.globalchange.gov/chapter/2/#fig-2-1>

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Rising global temperatures



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Impacts

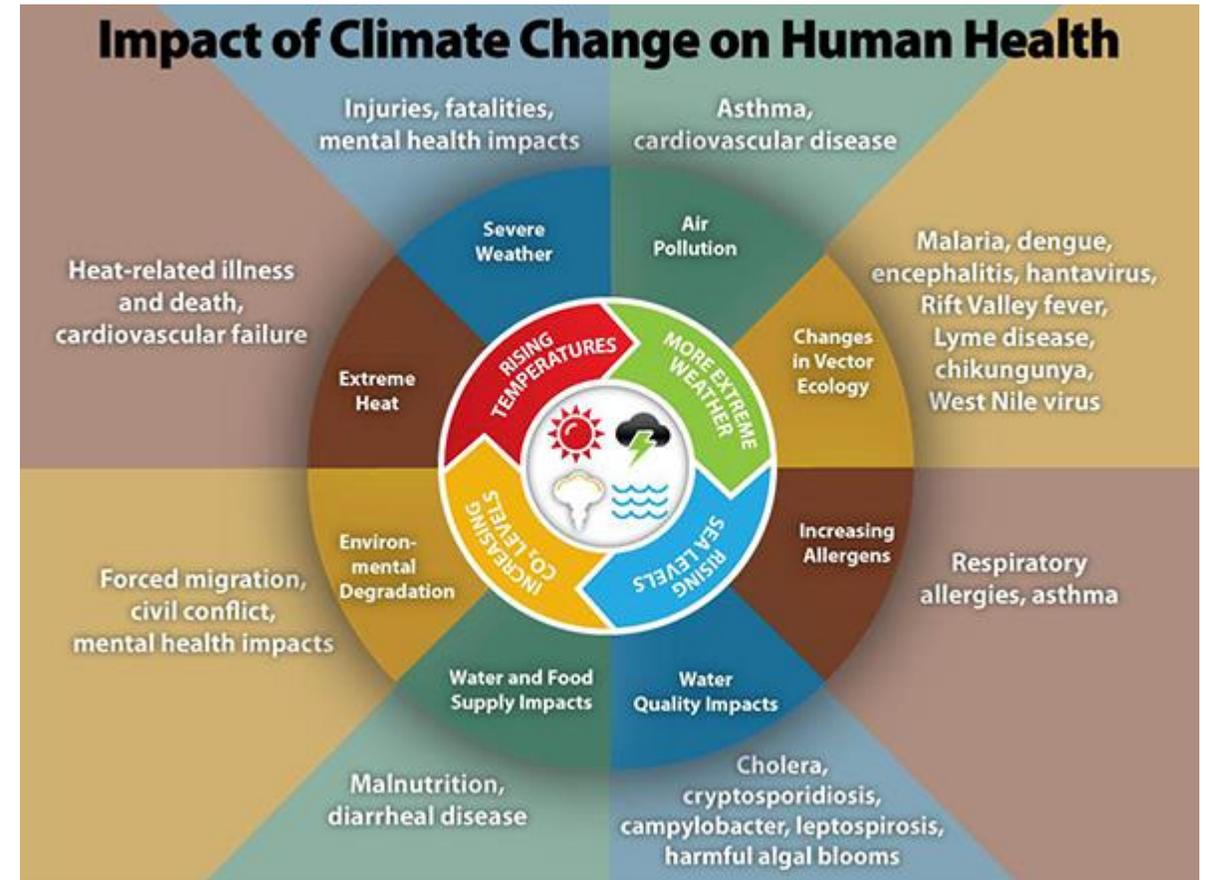
 More flooding & extreme weather events

 More heat and respiratory deaths

 Increased disease and pests

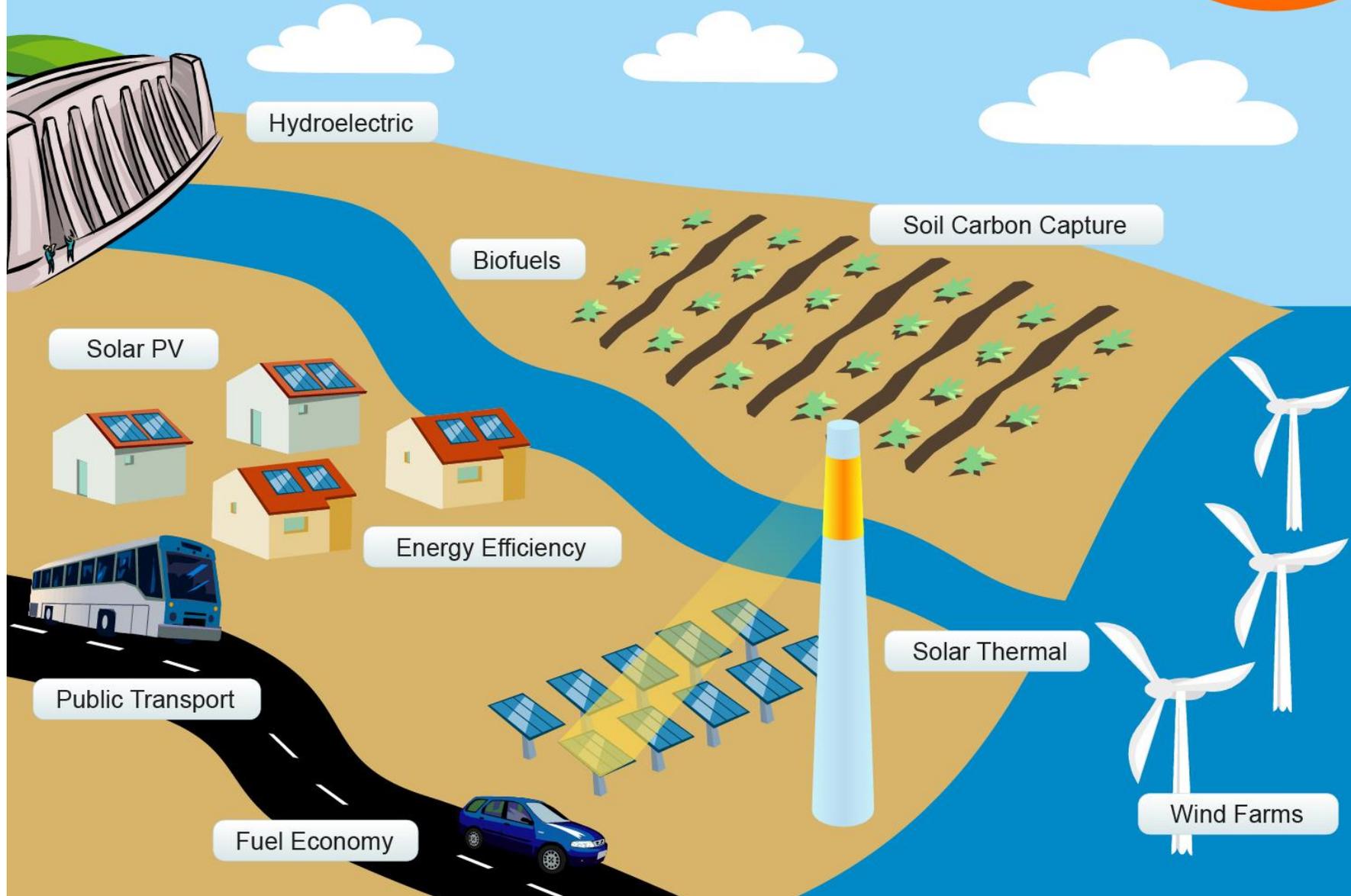
 Disruptions to agricultural systems

 Warmer, wetter weather may lead to an increase in mold and allergy-causing pollen.



<https://www.cdc.gov/climateandhealth/effects/>

We have the technology to solve climate change

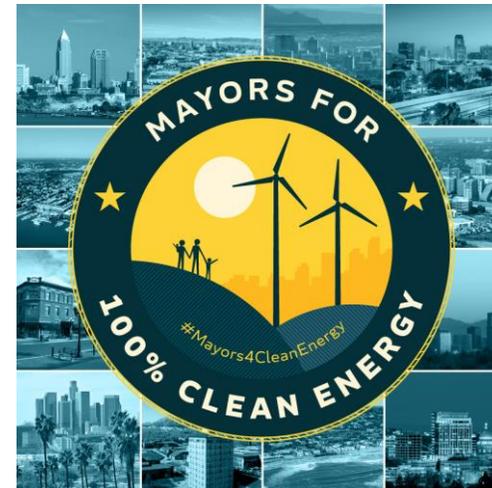


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Existing City commitments

Bethlehem has pledged to develop a Climate Action Plan and help uphold the U.S. commitments under the 2015 Paris Climate Agreement



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What is a Climate Action Plan (CAP)?

Bethlehem's city-wide, comprehensive roadmap to:



Reduce greenhouse gas emissions



Increase adaptation and resilience to climate change

While delivering additional benefits:



Social



Environmental



Economic

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What is in a Climate Action Plan (CAP)?

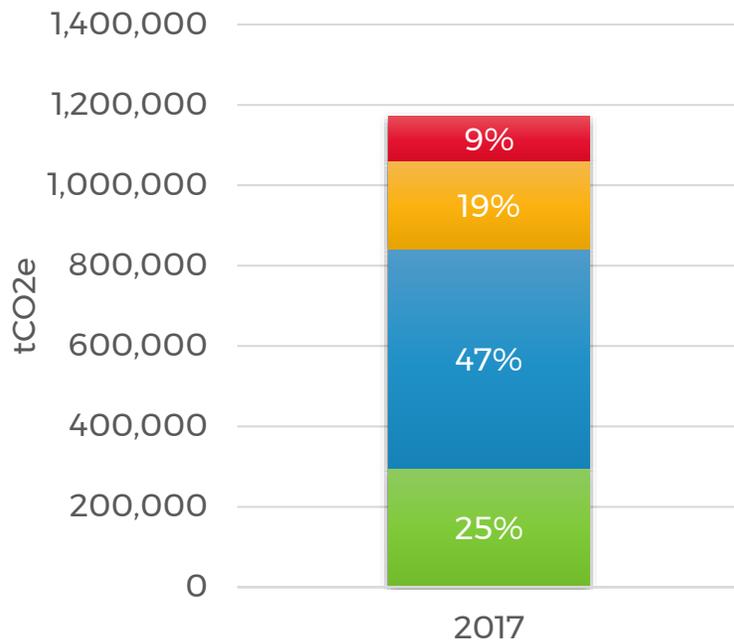
The Climate Action Plan is a roadmap. Implementation follows the release of the plan.



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Bethlehem Community-wide GHG Inventory

The inventory serves as the baseline for the city's goals. The inventory will be refined and updated over time to measure progress.



- Waste
- Transportation
- Electricity
- Natural gas and other fuel

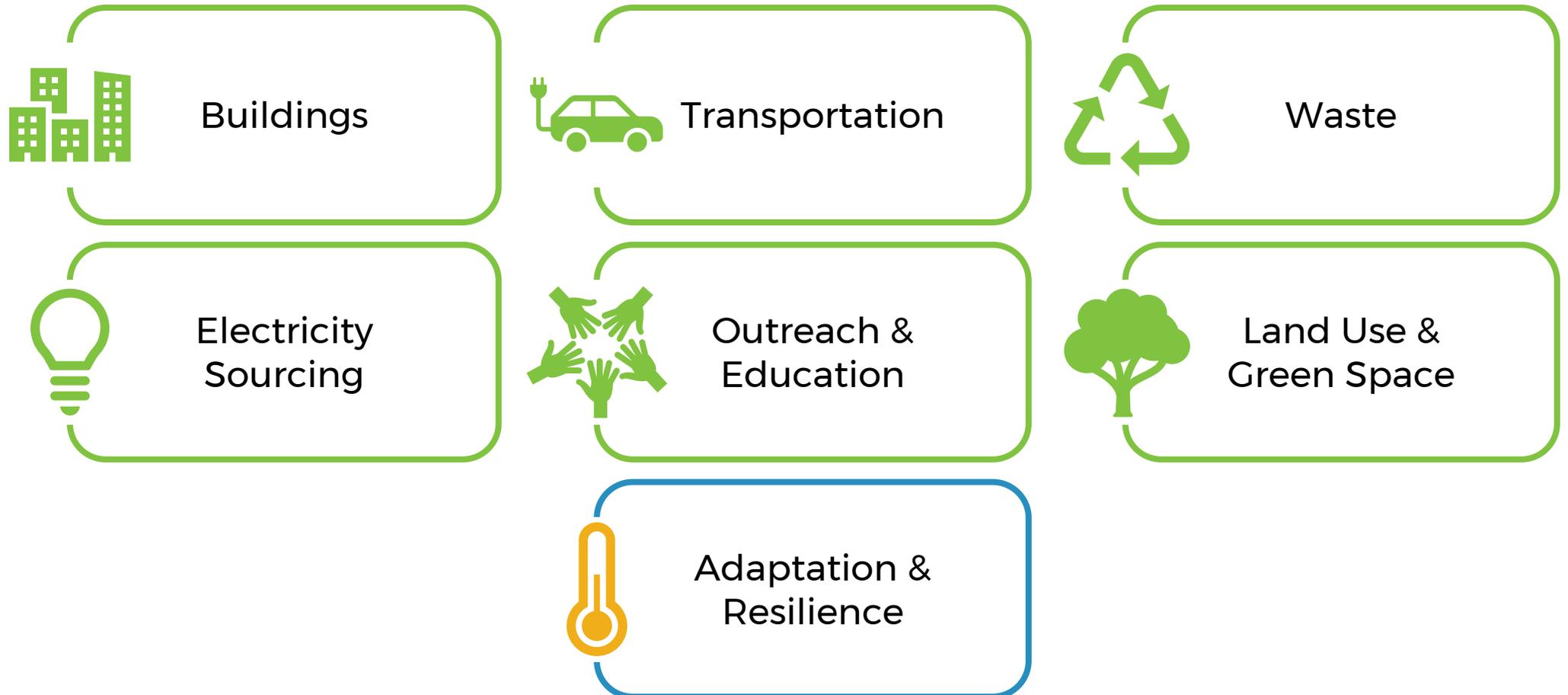
| Bethlehem 2017 Community-wide GHG Emissions (tCO2e) | | |
|---|------------------------------|------------------|
| <u>Natural gas and other fuel</u> | Residential | 74,000 |
| | Commercial and institutional | 86,000 |
| | Manufacturing | 136,000 |
| <u>Electricity</u> | Residential | 170,000 |
| | Commercial and institutional | 249,000 |
| | Manufacturing | 126,000 |
| <u>Transportation</u> | | 219,000 |
| <u>Waste</u> | | 111,000 |
| Total | | 1,171,000 |
| Emissions for electricity generation in city limits | | 2,072,000 |

**Note: preliminary numbers still undergoing refinement*

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Strategy and Action Areas

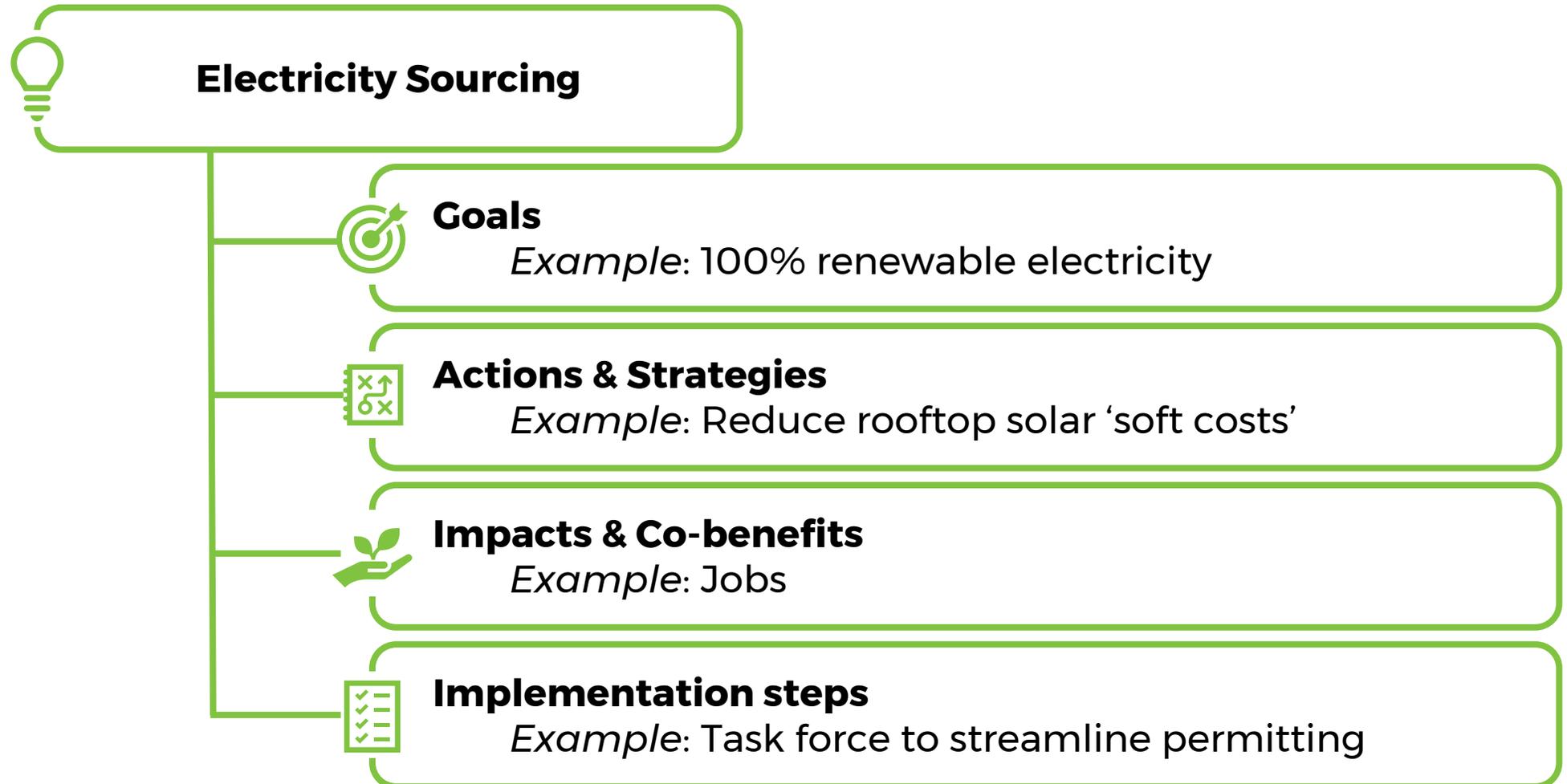
Strategies will be categorized by emission-reduction sector (**green**) and to increase the city's resiliency and protect vulnerable populations (**blue**) .



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Example Action Area Components

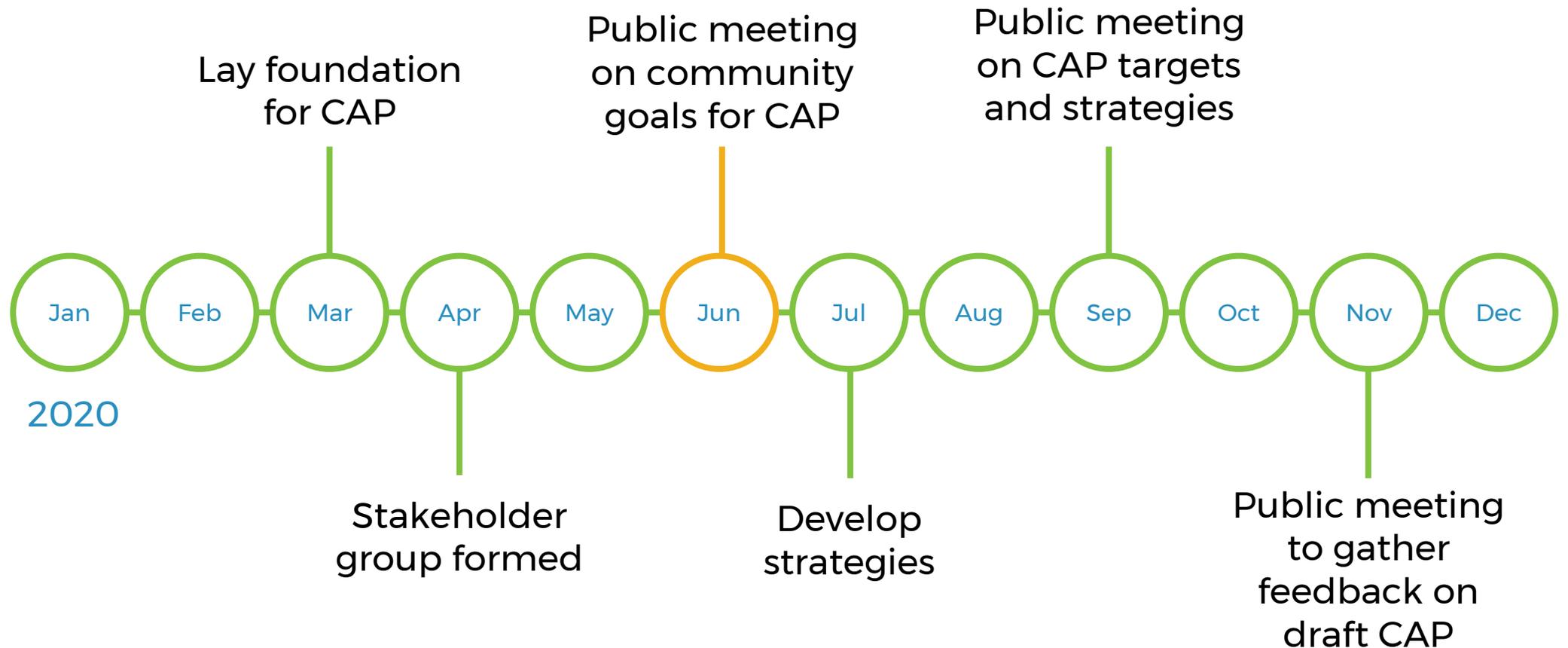
Each action area will include a roadmap to achieve goals.



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CAP Schedule and Approach

The development of the CAP consists of two phases: (1) laying the foundation, and (2) developing the plan.



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How to stay engaged

Visit [BethlehemCAP.org](https://tinyurl.com/bethlehemCAPpublic) for updates and details:

- Fill out Bethlehem's CAP Community Survey!
 - *In English:* <https://tinyurl.com/bethlehemCAPpublic>
 - *En español:* <https://tinyurl.com/bethlehemCAPpublicspanish>
- Submit an idea or ask questions via online form
- Participate in CAP public meetings planned for later this year

Get further involved:

- Follow the City of Bethlehem and Nurture Nature Center on social media for updates and ways to contribute
- Talk with your friends, family and neighbors - educate them about climate change and Bethlehem's CAP
- Discover ways you can make a difference as an individual - explore ways to save money and make your home more energy efficient, for instance
- You know your community best - be informed and speak up about your concerns and ideas!

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Question 1: equity, accessibility and justice

Question: We are striving to embody equity, accessibility and justice into the Climate Action Plan. Do you have ideas or suggestions on how we can be successful at this?

Example: When reducing the carbon intensity of the city's electricity mix, mitigate any potential cost increases to low-income households, either through subsidies or energy retrofits.

Mentimeter poll:

- Go to **menti.com** and enter code **415664**
- Alternately go directly to (provided in chat box):
<https://www.menti.com/jtmbnmgwfq>
- If you cannot access Mentimeter, enter your response in the chat box of GoToWebinar

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Question 2: plan objectives

Question: Write one sentence or one word on what you most hope the Climate Action Plan will achieve.

Example: Collaboration and partnerships.

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Question 3: principles

Question: Which of the following goals do you think should guide the development and prioritization of the Climate Action Plan strategies?

- *Reduce GHG emissions*
- *Improve resilience*
- *Improve equitable outcomes*
- *Demonstrate Bethlehem as a leader*
- *Promote workforce development*
- *Promote jobs and economic opportunities*
- *Reduce local air pollution (particulate matter, ozone, etc.)*
- *Create immediate impacts*
- *Up-front cost-effective and affordable*
- *Long-term investment and benefits*
- *Enhance accessibility*
- *Create or enhance infrastructure*

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Question 4: goals

Question: What approach should the city take when setting goals in the climate action plan?

- *Set aspirational goals with greater ambition, even if ability to achieve them is less certain*
- *Set goals with a high degree of confidence for achievement*
- *Set the ambition of goals based on the latest climate science*
- *Set the ambition of goals based on current economic or technical feasibility*

Mentimeter poll:

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Question 5: concerns

Question: Do you have any concerns about what is under discussion for inclusion in the plan?

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Question 6: increasing inclusivity

Question: How can we involve more residents and businesses in this process?

Mentimeter poll:

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Thank you!



City of
BETHLEHEM PA
CLIMATE ACTION PLAN